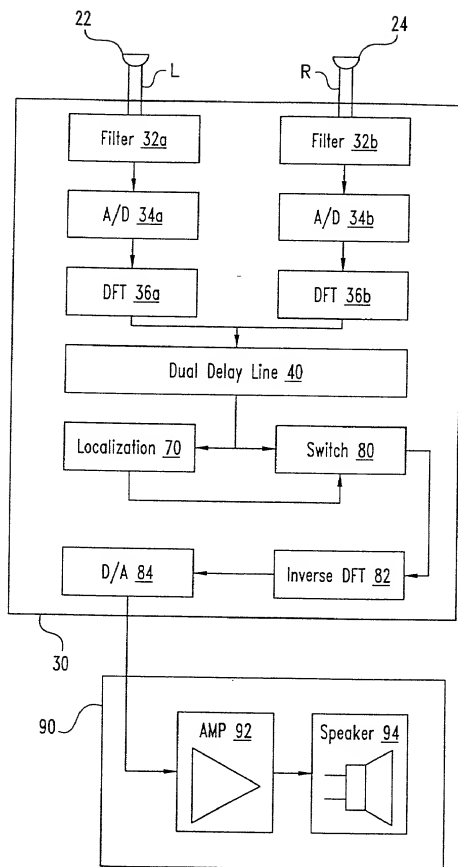
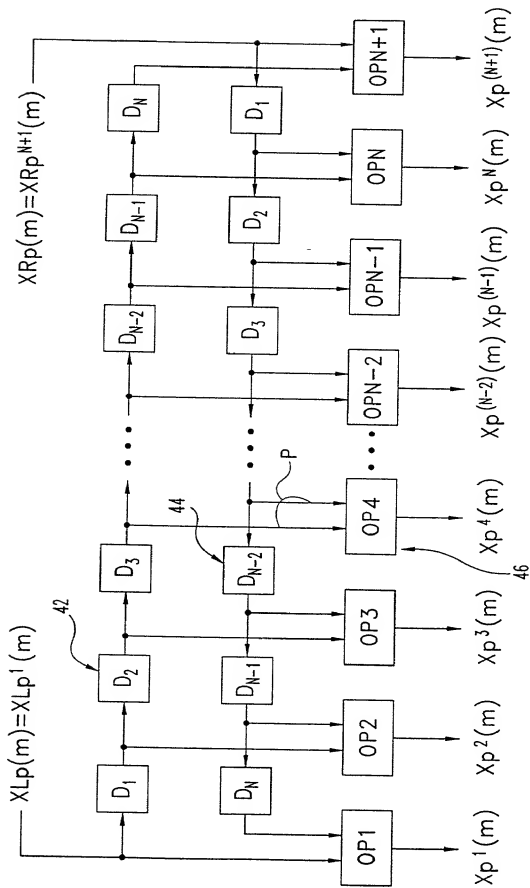
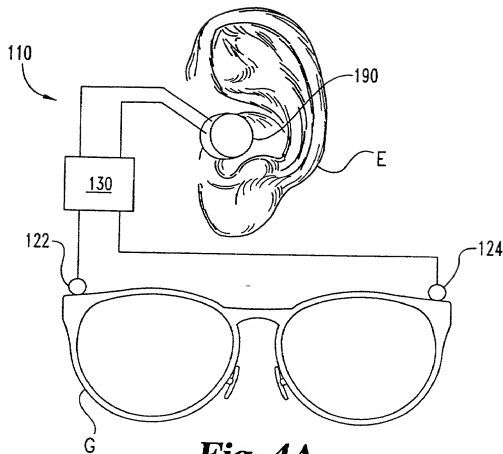
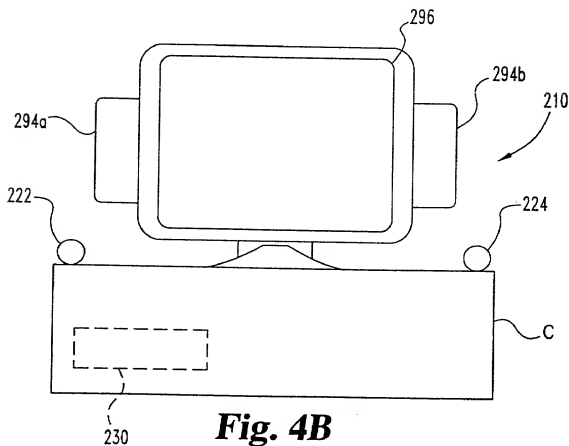
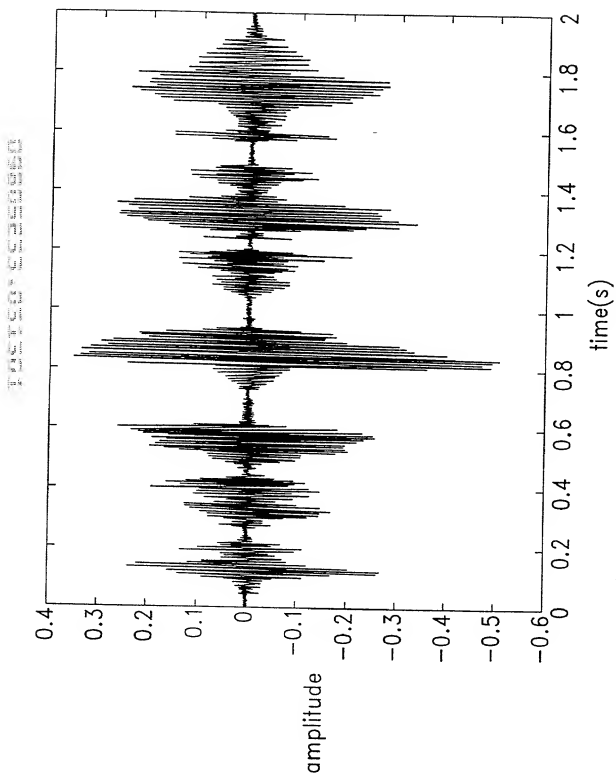
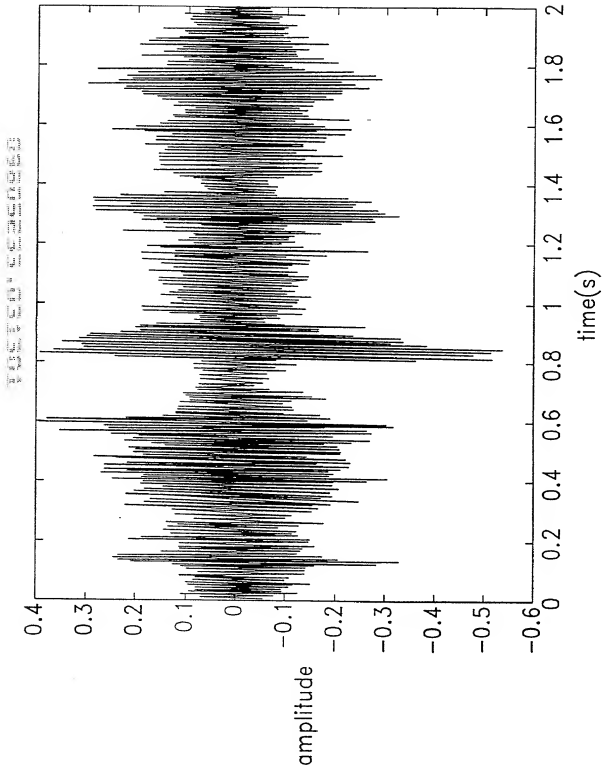
**Fig. 1**

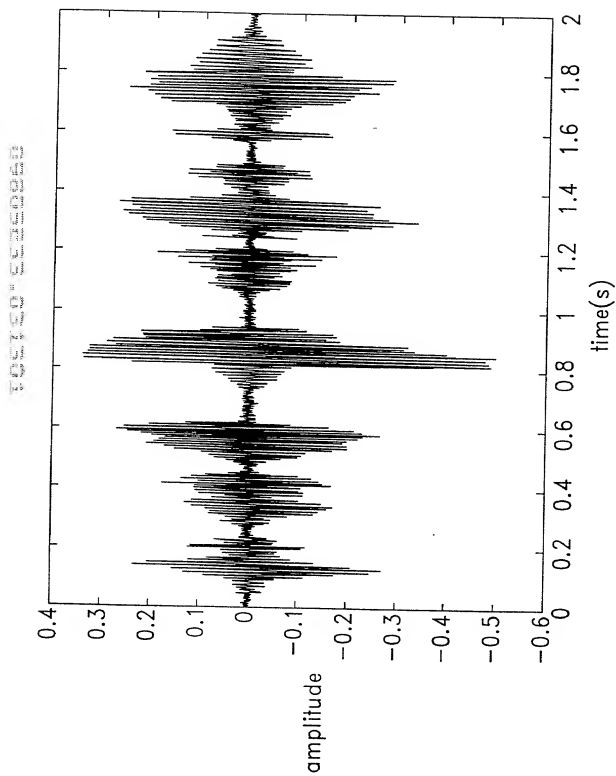
**Fig. 2**

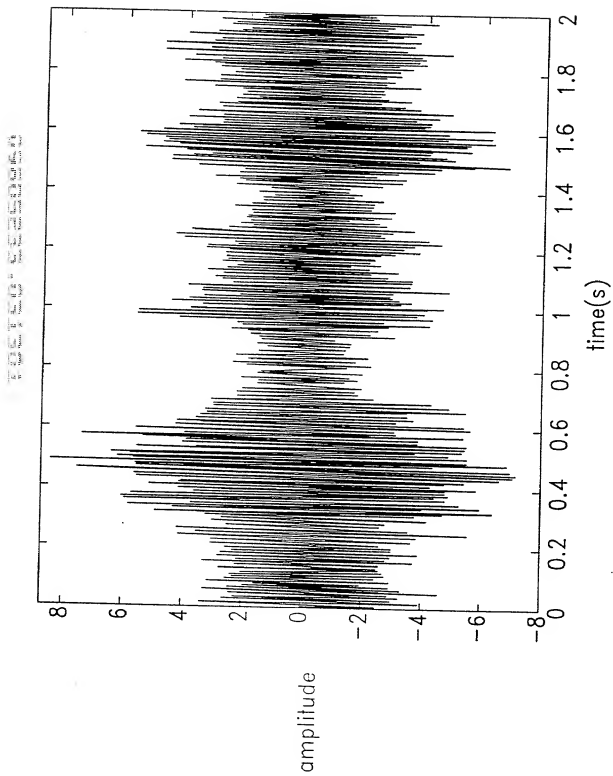
**Fig. 3**

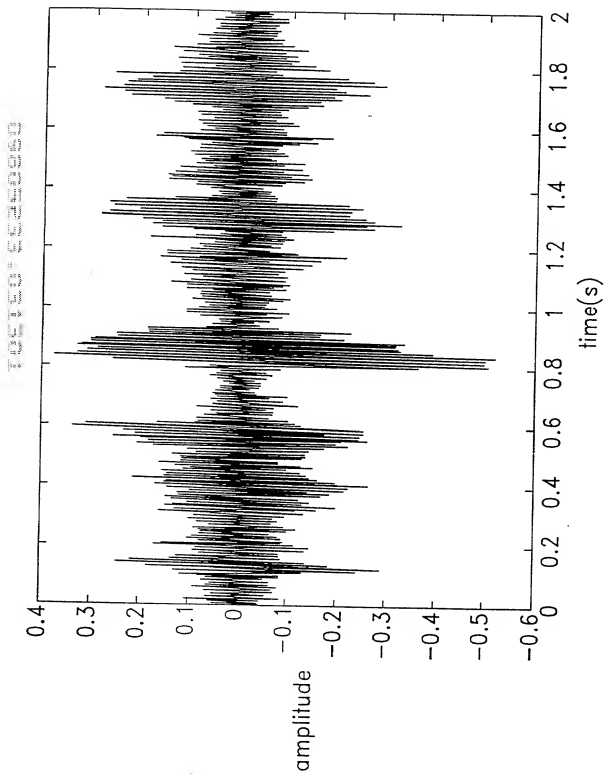
**Fig. 4A****Fig. 4B**

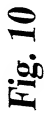
**Fig. 5**

**Fig. 6**

**Fig. 7**

**Fig. 8**

**Fig. 9**



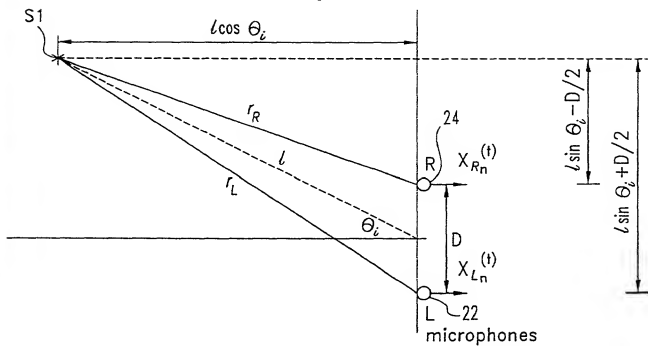
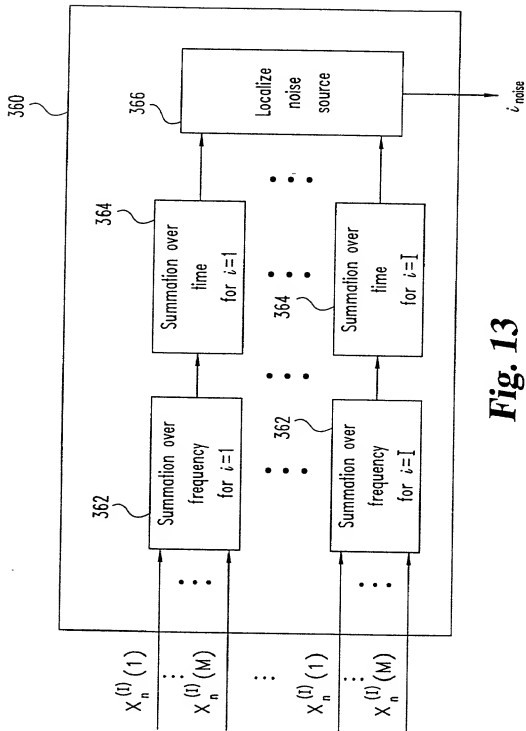
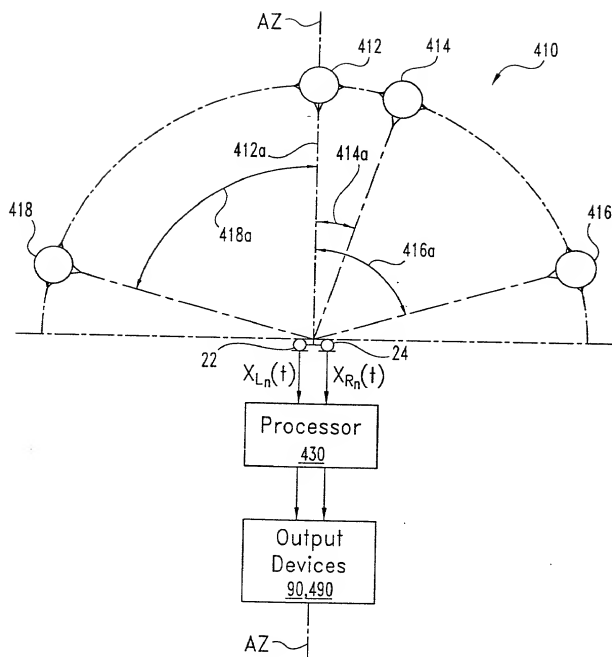


Fig. 12

**Fig. 13**

**Fig. 14**

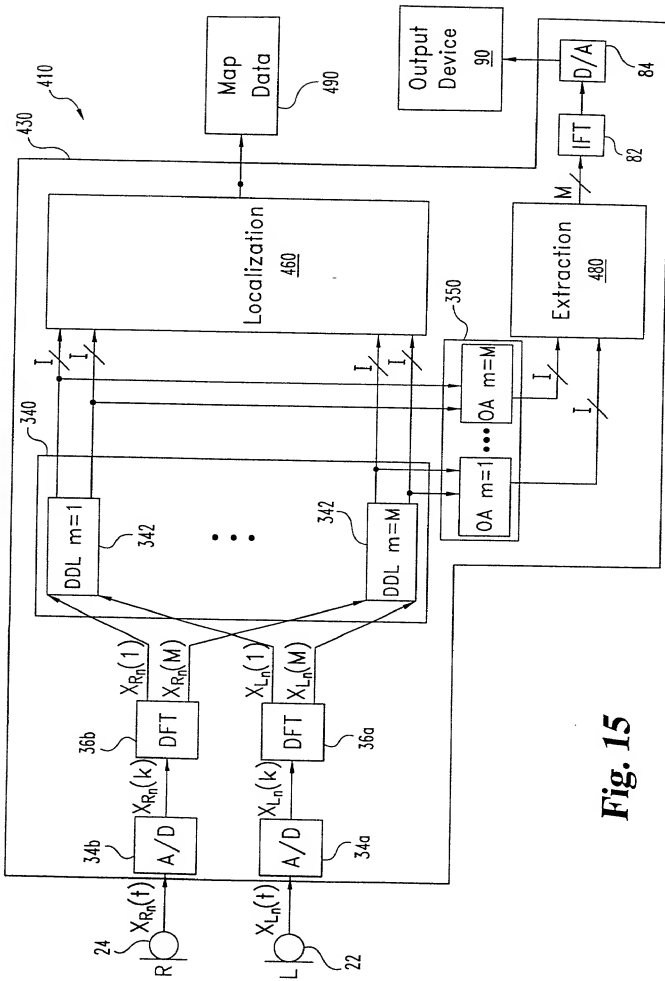
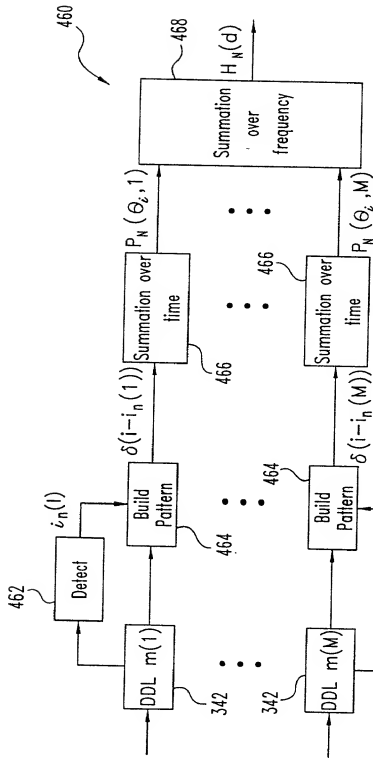
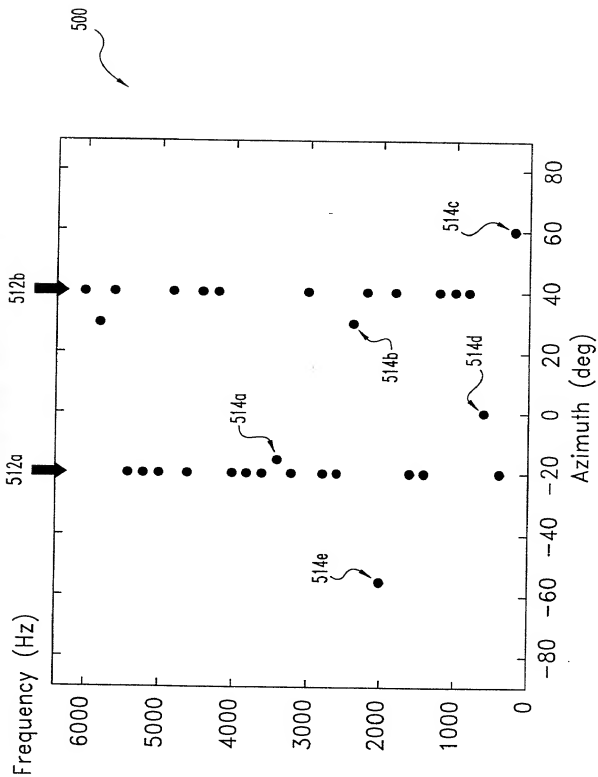


Fig. 15

**Fig. 16**

**Fig. 17**

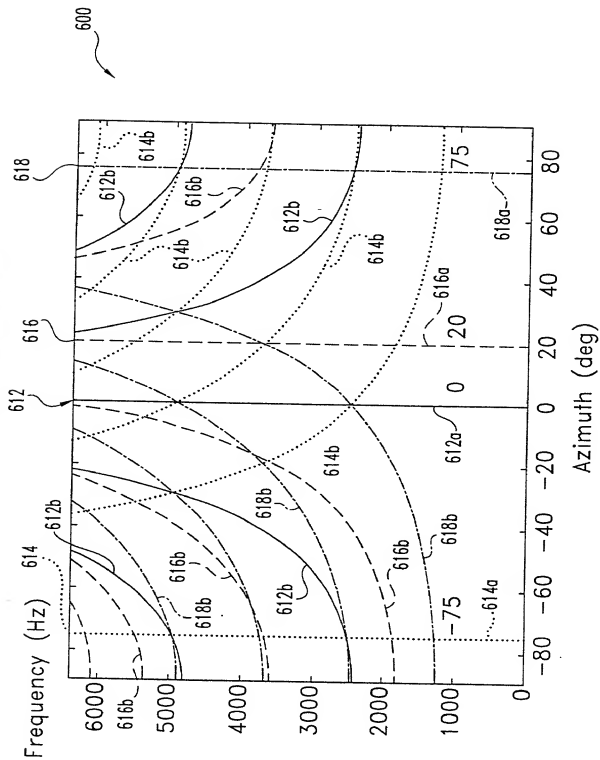


Fig. 18

19/22

| TEST # | DESIRED SOURCE | INTELLIGIBILITY-WEIGHTED SIGNAL CANCELLATION (dB) | | | | INTELLIGIBILITY-WEIGHTED NOISE CANCELLATION (dB) | NET INTELLIGIBILITY-WEIGHTED GAIN (dB) |
|--------|-------------------|---|--------------------|-----------------|------------------|---|---|
| #1 | | M1 "armchair" | M2 "playground" | F1 "pancake" | F2 "woodwork" | | |
| | | -75 | 0 | 20 | 75 | | |
| | -75 | 0.22 | 5.27 | 5.43 | 5.19 | 8.09 | 7.86 |
| | 0 | 7.94 | -0.00 | 5.39 | 3.61 | 9.40 | 9.40 |
| | 20 | 8.24 | 3.63 | -0.02 | 4.27 | 9.03 | 9.05 |
| #2 | 75 | 8.37 | 4.69 | 5.17 | 0.05 | 10.16 | 10.11 |
| | 30 | 30 | -45 | 60 | -10 | | |
| | -45 | 0.01 | 5.56 | 4.62 | 5.88 | 8.25 | 8.24 |
| | 60 | 10.43 | 0.04 | 5.67 | 5.63 | 10.31 | 10.27 |
| | -10 | 11.24 | 5.56 | 0.06 | 5.70 | 10.65 | 10.59 |
| #3 | 45 | 9.32 | 4.29 | 3.51 | -0.06 | 9.52 | 9.59 |
| | 10 | 10 | -80 | -50 | 45 | | |
| | -80 | 0.01 | 4.88 | 5.25 | 3.05 | 7.79 | 7.78 |
| | -50 | 10.00 | 0.15 | 5.53 | 3.29 | 10.66 | 10.52 |
| | 45 | 10.10 | 2.99 | 0.03 | 3.39 | 9.54 | 9.51 |
| #4 | 60 | 10.77 | 5.41 | 6.44 | 0.07 | 11.72 | 11.66 |
| | -30 | -30 | 15 | 5 | -60 | | |
| | -30 | 0.02 | 6.11 | 6.14 | 4.87 | 8.48 | 8.46 |
| | 15 | 9.55 | -0.02 | 5.25 | 4.40 | 10.22 | 10.24 |
| | 5 | 9.24 | 2.99 | -0.01 | 3.95 | 9.65 | 9.66 |
| #5 | -60 | 9.97 | 5.68 | 6.73 | 0.03 | 11.16 | 11.13 |
| | -25 | -25 | 25 | -70 | 80 | | |
| | -25 | 0.02 | 5.86 | 4.78 | 4.73 | 8.09 | 8.07 |
| | 25 | 9.07 | -0.01 | 4.98 | 3.51 | 9.39 | 9.40 |
| | -70 | 10.09 | 4.66 | 0.08 | 4.31 | 9.99 | 9.91 |
| 80 | 9.40 | 4.90 | 4.61 | 0.02 | 10.27 | 10.25 | |

Fig. 19

TABLE I

| TEST # | DESIRED SOURCE | INTELLIGIBILITY-WEIGHTED SIGNAL CANCELLATION (dB) | | | | INTELLIGIBILITY-WEIGHTED NOISE CANCELLATION (dB) | NET INTELLIGIBILITY-WEIGHTED GAIN (dB) |
|--------|----------------|---|--------------------|-----------------|------------------|--|--|
| | | M1 "armchair" | M2 "playground" | F1 "pancake" | F2 "woodwork" | | |
| #1 | -75 | 0.13 | 5.36 | 5.91 | 5.93 | | |
| | 0 | 8.10 | 0.00 | 5.20 | 4.09 | 8.45 | 8.32 |
| | 20 | 8.28 | 3.43 | -0.01 | 4.76 | 9.71 | 9.71 |
| | 75 | 8.36 | 4.49 | 5.15 | 0.04 | 9.16 | 9.18 |
| | | 30 | -45 | 60 | -10 | 10.32 | 10.28 |
| #2 | 30 | 0.01 | 5.50 | 4.61 | 5.79 | | |
| | -45 | 10.48 | 0.04 | 5.67 | 5.54 | 8.22 | 8.20 |
| | 60 | 11.21 | 5.56 | 0.07 | 5.63 | 10.31 | 10.28 |
| | -10 | 9.28 | 4.25 | 3.44 | -0.07 | 10.66 | 10.59 |
| | | 10 | -80 | -50 | 45 | 9.53 | 9.60 |
| #3 | 10 | 0.05 | 5.06 | 4.83 | 3.17 | 7.90 | 7.85 |
| | -80 | 9.82 | 0.10 | 5.59 | 3.63 | 10.85 | 10.76 |
| | -50 | 9.48 | 3.60 | 0.06 | 3.31 | 10.15 | 10.09 |
| | 45 | 10.51 | 5.47 | 6.38 | 0.05 | 11.95 | 11.90 |
| | | -30 | 15 | 5 | -60 | | |
| #4 | -30 | 0.02 | 6.11 | 6.13 | 5.11 | 8.56 | 8.53 |
| | 15 | 9.53 | -0.00 | 5.31 | 4.33 | 10.25 | 10.25 |
| | 5 | 9.18 | 2.95 | -0.00 | 4.01 | 9.55 | 9.56 |
| | -60 | 9.70 | 5.33 | 6.07 | 0.01 | 10.92 | 10.91 |
| | | -25 | 25 | -70 | 80 | | |
| #5 | -25 | 0.01 | 5.82 | 4.96 | 5.37 | 8.24 | 8.24 |
| | 25 | 8.77 | -0.00 | 5.19 | 4.29 | 9.43 | 9.43 |
| | -70 | 9.77 | 4.85 | 0.05 | 4.74 | 10.18 | 10.13 |
| | 80 | 9.02 | 4.58 | 4.73 | -0.00 | 10.38 | 10.39 |
| | | | | | | | |

TABLE II

Fig. 20

| TEST # | DESIRED SOURCE | INTELLIGIBILITY-WEIGHTED SIGNAL CANCELLATION (dB) | | | | INTELLIGIBILITY-WEIGHTED NOISE CANCELLATION (dB) | NET INTELLIGIBILITY-WEIGHTED GAIN (dB) |
|--------|----------------|---|------------------|------------------|------------------|--|--|
| | | F3 "stairway" | F4 "mushroom" | M3 "birthday" | M4 "sidewalk" | | |
| #1 | -75 | -75 | 0 | 20 | 75 | | |
| | | 0.09 | 8.47 | 7.85 | 6.17 | 9.51 | 9.42 |
| | 0 | 5.69 | -0.01 | 6.45 | 5.38 | 8.30 | 8.31 |
| | 20 | 6.12 | 7.33 | -0.03 | 5.09 | 9.65 | 9.69 |
| | 75 | 7.34 | 8.62 | 8.24 | 0.08 | 11.03 | 10.95 |
| #2 | 30 | 30 | -45 | 60 | -10 | | |
| | | 0.01 | 8.04 | 6.31 | 6.63 | 9.24 | 9.22 |
| | -45 | 7.48 | 0.13 | 6.05 | 6.06 | 9.02 | 8.89 |
| | 60 | 7.78 | 8.52 | 0.10 | 6.85 | 10.51 | 10.41 |
| | -10 | 7.86 | 7.53 | 6.65 | -0.03 | 10.02 | 10.05 |
| #3 | 10 | 10 | -80 | -50 | 45 | | |
| | | -0.11 | 5.96 | 6.32 | 6.99 | 7.48 | 7.59 |
| | -80 | 6.06 | 0.11 | 5.86 | 6.74 | 9.11 | 9.00 |
| | -50 | 6.71 | 4.33 | 0.06 | 7.18 | 7.95 | 7.88 |
| | 45 | 7.07 | 6.42 | 6.78 | 0.05 | 8.98 | 8.93 |
| #4 | -30 | -30 | 15 | 5 | -60 | | |
| | | 0.02 | 8.37 | 8.24 | 5.70 | 9.33 | 9.31 |
| | 15 | 6.56 | 0.02 | 6.51 | 5.81 | 8.87 | 8.85 |
| | 5 | 6.30 | 5.27 | 0.01 | 5.68 | 8.77 | 8.76 |
| | -60 | 7.61 | 8.22 | 8.41 | 0.05 | 10.64 | 10.58 |
| #5 | -25 | -25 | 25 | -70 | 80 | | |
| | | 0.00 | 7.68 | 6.67 | 6.50 | 9.75 | 9.74 |
| | 25 | 6.14 | -0.03 | 6.03 | 4.46 | 8.20 | 8.22 |
| | -70 | 5.60 | 6.54 | 0.22 | 4.58 | 9.05 | 8.83 |
| | 80 | 6.85 | 7.42 | 6.12 | 0.08 | 9.91 | 9.84 |

TABLE III

Fig. 21

| TEST # | DESIRED SOURCE | INTELLIGIBILITY-WEIGHTED SIGNAL CANCELLATION (dB) | | | | INTELLIGIBILITY-WEIGHTED NOISE CANCELLATION (dB) | NET INTELLIGIBILITY-WEIGHTED GAIN (dB) |
|--------|----------------|---|------------------|------------------|------------------|--|--|
| | | F3 "starway" | F4 "mushroom" | M3 "birthday" | M4 "sidewalk" | | |
| #1 | -75 | -75 | 0 | 20 | 75 | | |
| | | 0.11 | 6.41 | 6.78 | 7.15 | 8.17 | 8.06 |
| | 0 | 5.68 | 0.00 | 5.12 | 6.26 | 8.30 | 8.30 |
| | 20 | 6.10 | 5.82 | -0.03 | 6.17 | 8.39 | 8.42 |
| | 75 | 7.40 | 6.04 | 6.60 | 0.09 | 8.44 | 8.35 |
| #2 | 30 | 30 | -45 | 60 | -10 | | |
| | | 0.02 | 8.06 | 6.07 | 6.41 | 9.16 | 9.14 |
| | -45 | 7.55 | 0.11 | 5.63 | 6.65 | 9.05 | 8.95 |
| | 60 | 7.47 | 8.48 | 0.08 | 6.64 | 10.55 | 10.47 |
| | -10 | 7.57 | 7.60 | 6.31 | -0.04 | 10.04 | 10.07 |
| #3 | 10 | 10 | -80 | -50 | 45 | | |
| | | -0.11 | 5.94 | 3.79 | 6.87 | 6.41 | 6.52 |
| | -80 | 6.30 | 0.10 | 4.04 | 6.56 | 8.07 | 7.97 |
| | -50 | 6.69 | 4.68 | 0.07 | 6.89 | 8.29 | 8.22 |
| | 45 | 7.16 | 6.07 | 4.94 | 0.03 | 8.02 | 7.99 |
| #4 | -30 | -30 | 15 | 5 | -60 | | |
| | | 0.02 | 8.45 | 7.08 | 6.18 | 9.10 | 9.08 |
| | 15 | 7.18 | 0.00 | 5.07 | 6.31 | 8.02 | 8.02 |
| | 5 | 6.27 | 5.21 | 0.03 | 5.47 | 8.66 | 8.64 |
| | -60 | 7.89 | 8.34 | 7.19 | 0.05 | 10.35 | 10.30 |
| #5 | -25 | -25 | 25 | -70 | 80 | | |
| | | 0.01 | 7.79 | 6.63 | 6.57 | 9.67 | 9.66 |
| | 25 | 6.08 | -0.03 | 5.90 | 4.82 | 8.25 | 8.28 |
| | -70 | 5.58 | 6.66 | 0.15 | 4.43 | 9.18 | 9.03 |
| | 80 | 6.67 | 7.63 | 5.87 | 0.07 | 9.81 | 9.74 |

TABLE IV

Fig. 22